



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,271	08/02/2000	Gary Powell		8514

22470 7590 02/14/2003

HAYNES BEFFEL & WOLFELD LLP
P O BOX 366
HALF MOON BAY, CA 94019

EXAMINER

SMITH, JOHNNIE L

ART UNIT PAPER NUMBER

2881

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/631,271

Applicant(s)

POWELL, GARY

Examiner

Johnnie L Smith II

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The reply filed on 11/25/2002 has been entered. Claims 20-43 are now pending in case.
2. Applicant's remarks with respect to claims 20-43 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 20-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,986,747 (Moran) in view of US patent 5,529,657 (Ishii). In reference to claim 20, Moran discloses all elements of the claim (column 2 line 50-column 4 line 4), but failed to clearly teach a radio frequency power oscillator electromagnetically coupled to a space within the chamber, such an element is taught in the disclosure of Ishii (column 1 lines 37-99). It would have been obvious to one of ordinary skill in the art at the time of the invention to electromagnetically couple a power oscillator within the chamber to create an electromagnetic field as taught in Ishii.
6. In reference to claim 21, Moran discloses a device wherein the plasma chamber is dedicated to the generation of plasma light emission for spectral analysis (column 3 line 52-62). In reference to claims 22 and 23, Moran discloses a device wherein the gaseous coupling allows flow or diffusion of gas from the exhaust feed into the plasma chamber (column 3 line 23-42). In reference to claim 24, Moran discloses a device wherein the chamber operates at a gas pressure of 100 mtorr to 10 torr (column 5 line 3-6). In reference to claims 25 and 26, Ishii discloses a device wherein the RF power oscillator is adjustable to vary plasma

light intensity, independent of process or control changes to a process upstream of the gas feed or channel (column 8 line 43-61).

7. In reference to claims 27-29, Moran discloses a device having an optical window (134, see figures). In reference to claims 30-32, Moran discloses a device wherein the optical window transmits IR light and wherein the optical coupling of the spectral analyzer and window comprises a lens and guide (column 3 lines 54-59). In reference to claim 34, Ishii discloses teaches different circuit layouts within the device (see figures) including oscillators having inductors and capacitors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an induction coil and capacitor arranged parallel, since it is notoriously old in the oscillator arts to have an oscillator using inductors and capacitors in parallel.

8. In reference to claim 35, Ishii discloses a device wherein the RF power matches impedance with the gas before and after ignition of the gas to plasma state (see figures). In reference to claims 36 and 37, Ishii teaches a device wherein ignition of gas to a plasma state does not require any electrodes internal to the plasma chamber (column 1 lines 37-64). In reference to claims 38-43, Moran discloses a system that has a controller that includes hardware to provide the

necessary signals to initiate, monitor, regulate, and terminate the processes occurring in the chamber (column 4 lines 3-56).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent 5,066,125 (Rogers et al), US patent 6,333,269 (Naito et al) and US patent 6,101,971 (Denholm et al). All the cited US patents contain art similar to that being claimed by applicant, more specifically, plasma processing apparatuses and methods of.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnnie L Smith II whose telephone number is 703-305-0380. The examiner can normally be reached on Monday-Thursday 7-4 P.M. and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 703-308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Application/Control Number: 09/631,271
Art Unit: 2881

Page 6

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



JLSII

February 9, 2003



JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800